



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Se

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,843	07/15/2003	Richard P. Good	2000.107100/TT5470	7618
23720	7590	06/14/2005	EXAMINER	
WILLIAMS, MORGAN & AMERSON, P.C. 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			JARRETT, RYAN A	
			ART UNIT	PAPER NUMBER
			2125	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,843

Applicant(s)

GOOD ET AL.

Examiner

Ryan A. Jarrett

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 6 objected to because of the following informalities:

Claim 6 should depend from claim 5.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment, or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

The claims are directed to a method that does not require computer-implementation or use of technology to accomplish. The claims allow for the involvement of subjective human decision and therefore do not necessarily produce repeatable, concrete results.

Art Unit: 2125

All instances of the limitation "method" in claims 1-10 should be amended to read "computer-implemented method".

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 5, 6, 15, and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification has provided no reasons or explanation for why or how one of ordinary skill in the art would go about determining the sampling frequency of the sampling plan as a function of the singular value of the covariance matrix, except merely to state that the sampling frequency can be a linear or non-linear function of the singular value. Therefore, one of ordinary skill in the art would not know how to adjust the sampling frequency based on the singular value.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2125

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-4, 7-14, and 17-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Pasadyn 6,738,682. For example, Pasadyn discloses:

11. A system, comprising: a plurality of tools configured to process a plurality of workpieces to form at least one feature on each. workpiece; at least one metrology tool configured to measure a plurality of characteristics of the feature; a sampling controller configured to construct a covariance matrix including diagonal and non-diagonal terms for the plurality of characteristics measured, monitor at least the non-diagonal terms of the covariance matrix (e.g., col. 19 lines 25-39, col. 36 lines 59-64), and determine a sampling plan for measuring the workpieces based on the monitoring (e.g., col. 40 lines 43-53, col. 42 lines 59-67, col. 49 lines 12-21).

12. The system of claim 11, wherein the sampling controller is further configured to monitor the non-diagonal terms of the covariance matrix by determining that at least one of the non-diagonal terms has crossed a predetermined threshold (e.g., col. 23 lines 46-62, col. 28 lines 51-64).

13. The system of claim 11, wherein the sampling controller is further configured to monitor the non-diagonal terms of the covariance matrix by identifying a trend in at least one of the non-diagonal terms (e.g., col. 23 lines 46-62, col. 35 line 59 – col. 36 line 3, col. 46 lines 59-67).

14. The system of claim 11, wherein the sampling controller is further configured to monitor the non-diagonal terms of the covariance matrix by receiving measurements of the characteristics of the feature on a current workpiece, identifying relationships between the measurements of the characteristics for the current workpiece, comparing the identified relationships to relationships present in the covariant matrix as defined by the non-diagonal terms, and identifying a mismatch

Art Unit: 2125

between the relationships for the measurements of the characteristics for the current workpiece and the relationships present in the covariance matrix. (e.g., col. 28 line 51 – col. 29 line 24).

17. The system of claim 11, wherein the sampling controller is further configured to determine a sampling plan for subsequently processed workpieces.

18. The system of claim 11, wherein the sampling controller is further configured to identify a disturbance in the covariance matrix, associate a particular workpiece with a deviation in the covariance matrix, and determine a sampling plan for the particular workpiece (e.g., col. 47 lines 23-47).

19. The system of claim 11, wherein the sampling controller is further configured to determine a sampling frequency based on the monitoring.

20. The system of claim 11, wherein the sampling controller is further configured to select a particular workpiece for subsequent metrology collection (e.g., col. 47 lines 23-47).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (571) 272-3742. The examiner can normally be reached on 10:00-6:30 M-F.

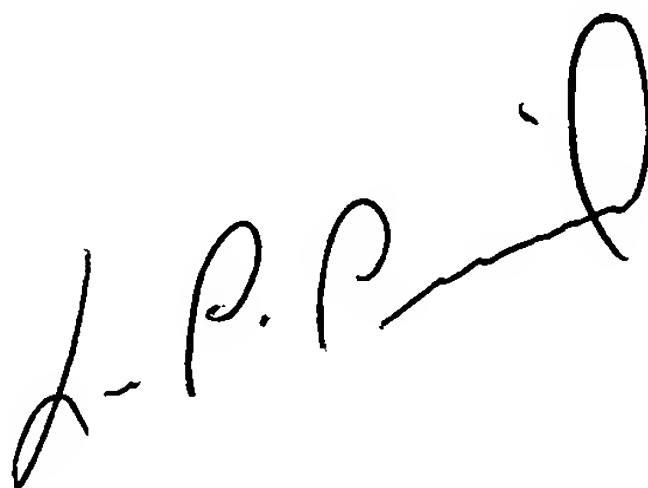
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2125

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan A. Jarrett
Examiner
Art Unit 2125

6/8/05

A handwritten signature in black ink, appearing to read 'L. Picard', with a large, stylized loop at the end.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100